

Pregnant Women and Infants

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Comments, suggestions and requests for information may be addressed to:

Center for Health Statistics
P.O. Box 309, Room 172
Madison, WI 53701
Phone: (608) 267-7955
Fax: (608) 261-6380
Internet: Guhlepa@dhfs.state.wi.us

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LIST OF TABLES AND FIGURES

DEMOGRAPHICS OF WOMEN OF CHILDBEARING AGE

Table 1.	Population of Women Ages 15-44, 1990-1994	1
Table 2.	Poverty Status of Women Ages 18-44, 1989	1

BIRTHS AND FERTILITY RATES

Table 3.	Total Births and Birth Rates, 1990-1994	2
Table 4.	Comparison of Birth Rates, 1994	2
Table 5.	Comparison of Age-Specific Birth Rates, 1992-1994 Averages	3
Table 6.	Age-Specific Birth Rates, Three-Year Averages	3

MATERNAL AND INFANT CHARACTERISTICS

Table 7.	First Prenatal Care Visit and Low Birthweight, 1990-1994	4
Figure 1.	Percent of Women Obtaining First-Trimester Prenatal Care, 1994	4
Table 8.	First Prenatal Care Visit and Low Birthweight by Age of Mother, 1994	5
Figure 2.	Percent of Births with Low Birthweight (<2,500 grams), 1994	5
Table 9.	First Prenatal Care Visit and Low Birthweight by Race/Ethnicity of Mother, 1994	6
Table 10.	First Prenatal Care Visit and Low Birthweight by Education of Mother, 1994	6
Table 11.	Births with Selected Maternal Characteristics, 1990-1994	7
Figure 3.	Percent of Births to Teens (<20) and Unmarried Women, 1994	7
Table 12.	Births with Selected Maternal Characteristics by Age, 1994	8
Figure 4.	Percent of Women Who Smoked During Pregnancy as a Percentage of All Live Births, 1994	8
Table 13.	Reported Pregnancies and Births, 1992-94 Annual Average	9
Table 14.	Selected Risk Factors Related to Infant Mortality, 1994	9

INFANT MORTALITY

Table 15.	Number of Infant Deaths, 1990-1994	10
Table 16.	Five-Year Average Infant Mortality, 1990-1994	10

HEALTH SERVICES

Table 17.	Newborn Hospital Stays by Birthweight and Expected Source of Payment, 1994	11
Table 18.	Number of Infant Hospitalizations by Selected Diagnoses and Expected Source of Payment, 1994	11
Table 19.	Number of Preventable Infant Hospitalizations by Selected Diagnoses and Expected Source of Payment, 1994	12
Table 20.	Participation in Special Health Programs, 1994	13

TECHNICAL NOTES

- Table 5. Excludes births to mothers whose age was not specified.
- Table 7-12. Rates and percentages are based on the births for which maternal and infant characteristics depicted in the table are known. For example, the percent of births to mothers who smoked during pregnancy (Table 12) is based on births for which maternal smoking status was known.
- Table 8. No rates are shown for births to mothers less than 15 years old, nor are births to these mother reflected in the total.
- Table 9. The “Other” race category in these *Profiles* is limited to births to mothers whose race was not specified.
- Table 10. Mothers with “less than high school” education are those who completed less than 12 years of schooling.

DEMOGRAPHICS OF WOMEN OF CHILDBEARING AGE

Table 1. Population of Women Ages 15-44, 1990-1994

Age	1990	1991	1992	1993	1994
15-19	10,515	10,370	10,430	10,230	11,060
20-24	8,763	8,920	8,840	9,190	9,270
25-29	11,062	10,760	10,480	9,670	9,410
30-34	13,404	13,640	13,680	13,530	12,250
35-39	13,800	14,330	14,710	14,660	14,480
40-44	12,958	14,060	14,300	13,990	13,760
Total	70,502	72,080	72,440	71,270	70,230

Source: 1990 data are from the 1990 Census of Population and Housing; 1991-1994 estimates are from the Wisconsin Center for Health Statistics.

The number of Wisconsin women in their childbearing years (ages 15-44) has increased since 1990. While most (62) counties have experienced net increases, 9 counties have had net declines in the number of women ages 15-44.

Table 2. Poverty Status of Women Ages 18-44, 1989

Age	Percent in Poverty		County Rank:		
	County	State	Low	Average	High
18-24	6.9	23.8	x		
25-44	3.1	9.7	x		
Total 18-44	3.8	13.0	x		

Source: 1990 Census of Population and Housing.

Note: Poverty is defined by the federal government and measured by household income and size. The percent distribution of poverty by county determines the county rank. A county is "low" if it is in the lowest quartile (# 14.8 for age group 18-24; # 8.1 for age group 25-44; # 10.1 for age group 18-44), or "high" if it is in the highest quartile (\$ 28.4 for age group 18-24; \$ 15.2 for age group 25-44; \$ 16.3 for age group 18-44).

In half of Wisconsin counties, between 11 and 16 percent of women ages 18-44 had incomes below poverty, according to the 1990 U.S. Census.

BIRTHS AND FERTILITY RATES

Table 3. Total Births and Birth Rates, 1990-1994

Year	Number of Births	Crude Birth Rate	General Fertility Rate	Teen Birth Rate
1990	4,046	13.3	57.4	14.6
1991	4,058	13.0	56.3	15.5
1992	4,026	12.7	55.6	14.2
1993	3,963	12.4	55.6	16.4
1994	4,122	12.6	58.7	17.4

Since 1990, annual declines have occurred statewide in total births, the crude birth rate and the general fertility rate. The Wisconsin teen birth rate has ranged between a high of 44 in 1991 and a low of 39 in 1994.

Source: Birth certificates and population estimates, Wisconsin Center for Health Statistics.

Note: The crude birth rate (CBR) is defined as the number of births in a given year divided by the number of people in the population (per 1,000). The general fertility rate (GFR) is defined as the number of births in a given year divided by the population of women ages 15-44 (per 1,000). The teen birth rate (TBR) is defined as the number of births to teens 15-19 divided by the population of females ages 15-19 (per 1,000).

Table 4. Comparison of Birth Rates, 1994

	Birth Rate:		County Rank:		
	County	State	Low	Average	High
Crude Birth Rate	12.6	13.4		x	
General Fertility Rate	58.7	59.9		x	
Teen Birth Rate	17.4	38.8	x		

Source: Birth certificates and population estimates, Wisconsin Center for Health Statistics.

Note: The distribution of birth rates by county determines the county rank. A county is "low" if it is in the lowest quartile (CBR # 11.3; GFR # 54.3; TBR # 26.0), or "high" if it is in the highest quartile (CBR \$ 13.1; GFR \$ 64.1; TBR \$ 46.5).

In 54 counties, at least 20 births occurred in which the mother was a teen (aged 19 or younger). One-fourth of the counties had a 1994 teen birth rate of 26 per 1,000 or below (the lowest quartile). Another fourth had a rate of 46 per 1,000 or higher (the highest quartile).

Table 5. Comparison of Age-Specific Birth Rates, 1992-1994 Averages

Age	Average Annual Number of Births	Birth Rate:		County Rank:		
		County	State	Low	Average	High
<15	3	---	---	---	---	---
15-19	169	16.0	40.6	x		
15-17	51	8.0	23.6	x		
18-19	118	28.5	67.1	x		
20-34	3,260	101.5	97.2		x	
35+	604	21.1	17.7			x
Total	4,037	56.6	61.0			

Statewide, most births (79 percent in 1994) are to women in their twenties and early thirties. In counties with relatively high birth rates for this age group, the rates ranged from 111 to 325 (per 1,000 women aged 20-34).

Source: Birth certificates and population estimates, Wisconsin Center for Health Statistics.

Note: Rates are per 1,000 women in the age group. The distribution of birth rates by county determines the county rank. A county is “low” if it is in the lowest quartile (# 26.0 for ages 15-19; # 12.6 for ages 15-17; # 47.4 for ages 18-19; # 98.5 for ages 20-34 ; # 13.5 for ages 35 and above), or “high” if it is in the highest quartile (\$ 44.6 for ages 15-19; \$ 24.9 for ages 15-17; \$ 79.5 for ages 18-19; \$ 111.3 for ages 20-34; \$ 17.7 for ages 35 and above).

Table 6. Age-Specific Birth Rates, Three-Year Averages

Age	1990-1992	1991-1993	1992-1994
15-19	14.8	15.4	16.0
15-17	6.4	7.1	8.0
18-19	30.7	29.2	28.5
20-34	101.1	99.9	101.5
35+	19.0	19.8	21.1

Wisconsin birth rates have declined since 1990 for women in all age groups except those age 30 and above.

Source: Birth certificates and population estimates, Wisconsin Center for Health Statistics.

Note: Rates are per 1,000 women in the age group.

MATERNAL AND INFANT CHARACTERISTICS

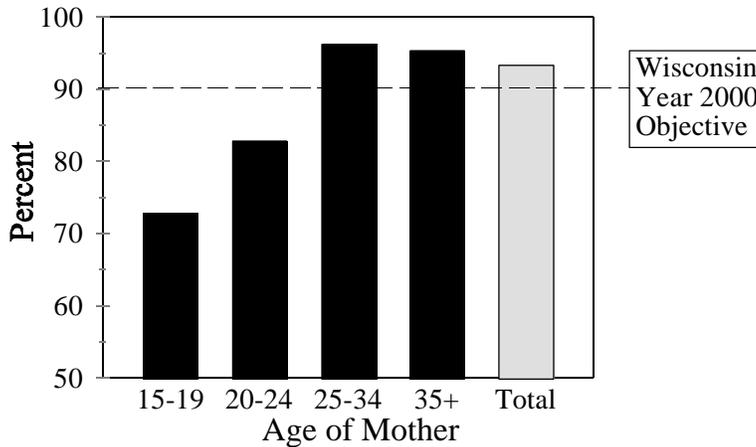
Table 7. First Prenatal Care Visit and Low Birthweight, 1990-1994

Year	First Trimester		Third Trimester or None		Birthweight Less than 2,500 Grams	
	N	%	N	%	N	%
1990	3,777	93.4	60	1.5	180	4.4
1991	3,807	93.9	44	1.1	169	4.2
1992	3,750	93.6	49	1.2	181	4.5
1993	3,721	94.3	40	1.0	191	4.8
1994	3,845	93.3	47	1.1	186	4.5

Source: Birth certificates, Wisconsin Center for Health Statistics.

In relatively small proportions of Wisconsin births each year, prenatal care was begun during the third trimester or not at all.

Figure 1. Percent of Women Obtaining First-Trimester Prenatal Care, 1994



Source: Birth certificates, Wisconsin Center for Health Statistics.

Since 1990, the proportion of Wisconsin women who received first-trimester prenatal care has been 82 or 83 percent each year.

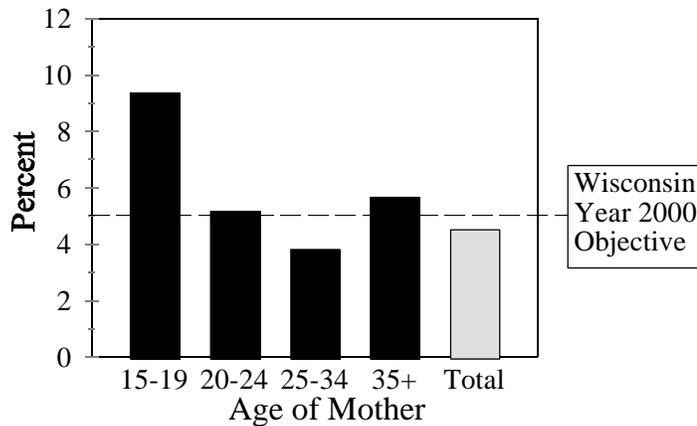
Table 8. First Prenatal Care Visit and Low Birthweight by Age of Mother, 1994

Age	Number of Births	First Trimester		Third Trimester or None		Birthweight Less than 2,500 Grams	
		N	%	N	%	N	%
15-19	192	139	72.8	8	4.2	18	9.4
20-24	485	401	82.9	18	3.7	25	5.2
25-34	2,783	2,677	96.3	16	0.6	106	3.8
35+	654	623	95.4	4	0.6	37	5.7
Total	4,114	3,840	93.4	46	1.1	186	4.5

Statewide, late or no prenatal care is generally more prevalent among very young women who give birth than among older women. Infants born to teenagers are also more likely to have a birthweight less than 2,500 grams (5.5 pounds).

Source: Birth certificates, Wisconsin Center for Health Statistics.

Figure 2. Percent of Births with Low Birthweight (<2500 Grams), 1994



Source: Birth certificates, Wisconsin Center for Health Statistics.

In 1994, a total of 4,358 infants (6.4 percent of live births) were born in Wisconsin with low birthweight. Low birthweight occurred most frequently among births to teens (9 percent of all births in the age group); women age 35 and older had the second highest proportion (almost 7 percent).

Table 9. First Prenatal Care Visit and Low Birthweight by Race/Ethnicity of Mother, 1994

Race/ Ethnicity	Number of Births	First Trimester		Third Trimester or None		Birthweight Less than 2,500 Grams	
		N	%	N	%	N	%
White	3,930	3,692	93.9	39	1.0	171	4.4
Black	23	17	77.3	4	18.2	0	0.0
Am. Indian	4	---	---	---	---	---	---
Hispanic	110	84	76.4	4	3.6	12	10.9
Asian	55	49	89.1	0	0.0	3	5.5
Other	0	---	---	---	---	---	---

In 1994, statewide there were 56,451 births to white women, 6,812 births to African-American women, 2,398 births to Hispanic women, 1,839 births to Asian women (of which 1,230 births were to Laotian/Hmong women), and 750 births to American Indian women.

Source: Birth certificates, Wisconsin Center for Health Statistics.

Note: All live births were classified into mutually exclusive categories: non-Hispanic white, non-Hispanic black, Hispanic, non-Hispanic Asian, non-Hispanic American Indian, non-Hispanic other. Characteristics are not shown for fewer than 20 births.

Table 10. First Prenatal Care Visit and Low Birthweight by Education of Mother, 1994

Years of Education	Number of Births	First Trimester		Third Trimester or None		Birthweight Less than 2,500 Grams	
		N	%	N	%	N	%
Less than High School	224	165	73.7	12	5.4	12	5.4
High School	1,179	1,082	91.8	14	1.2	59	5.0
More than High School	2,719	2,598	95.6	21	0.8	115	4.2

Women with higher levels of education are more likely to receive prenatal care during the first trimester of pregnancy; their infants are also much less likely to have low birthweight.

Source: Birth certificates, Wisconsin Center for Health Statistics.

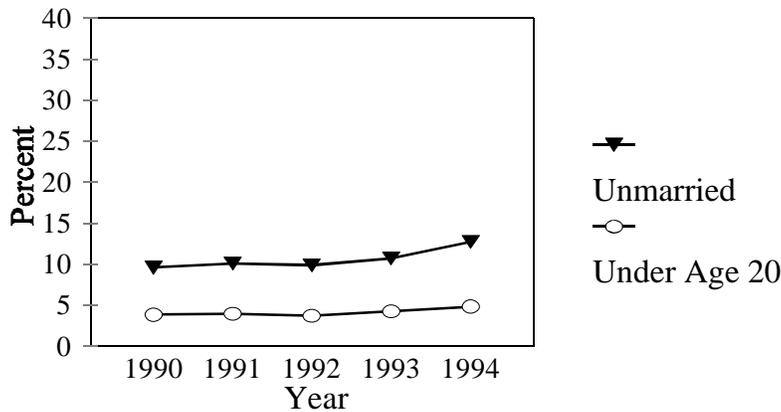
Table 11. Births with Selected Maternal Characteristics, 1990-1994

Year	First Birth		Unmarried		< 12 Years Education		Smoked during Pregnancy	
	N	%	N	%	N	%	N	%
1990	1,532	37.9	388	9.6	224	5.5	637	15.7
1991	1,531	37.7	409	10.1	211	5.2	632	15.6
1992	1,551	38.5	397	9.9	194	4.8	553	13.7
1993	1,528	38.6	424	10.7	185	4.7	541	13.7
1994	1,603	38.9	525	12.7	224	5.4	532	12.9

Source: Birth certificates, Wisconsin Center for Health Statistics.

The proportion of Wisconsin women who smoke during pregnancy has declined about 1 percentage point annually since 1990.

Figure 3. Percent of Births to Teens (<20) and Unmarried Women, 1994



Source: Birth certificates, Wisconsin Center for Health Statistics.

The long-term increase in the proportion of births to unmarried mothers continued during the 1990s. Infants born to unmarried women represented 24 percent of all Wisconsin births in 1990; by 1994, they were 27 percent of all births.

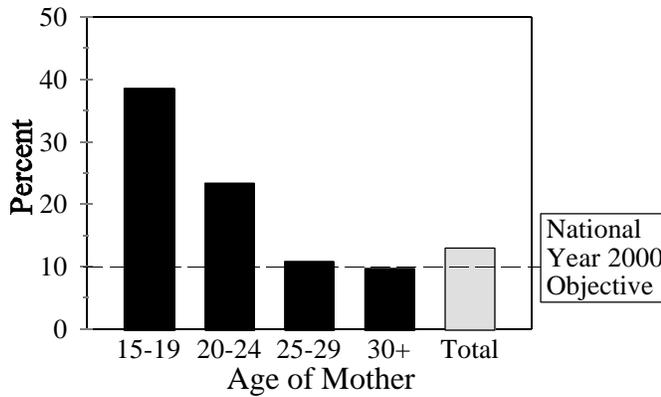
Table 12. Births with Selected Maternal Characteristics by Age, 1994

Age	Unmarried		<12 Years Education		Smoked during Pregnancy	
	N	%	N	%	N	%
15-19	158	82.3	103	53.6	74	38.5
20-24	184	37.9	48	9.9	113	23.3
25-29	93	7.7	39	3.2	131	10.8
30+	83	3.7	27	1.2	214	9.6

Source: Birth certificates, Wisconsin Center for Health Statistics.

The proportion of infants born to unmarried women was 25 percent or greater in one-fourth of Wisconsin counties. In most counties, the proportion of nonmarital births was higher among younger women.

Figure 4. Percent of Women Who Smoked During Pregnancy as a Percentage of All Live Births, 1994



Source: Birth certificates, Wisconsin Center for Health Statistics.

In general, older women are less likely to smoke during pregnancy than younger women. In 1994, 27 percent of Wisconsin teens ages 15-19 who gave birth smoked during their pregnancies, compared with 15 percent of women ages 30 and older.

Table 13. Reported Pregnancies and Births, 1992-94 Annual Average

Age	Reported Pregnancies	Number of Births
Less than 20	328	172
20+	4,409	3,865
Total	4,737	4,037

Source: Birth certificates, reported induced abortions and reported fetal deaths, Wisconsin Center for Health Statistics.

Note: The number of reported pregnancies is the sum of the number of live births, reported fetal deaths, and reported induced abortions. The number of reported pregnancies underestimates the actual number of pregnancies because it does not include miscarriages. Pregnancies from border counties may also be underestimated because of limited reporting by out-of-state facilities.

The proportion of pregnancies that result in a live birth is generally higher for women over 20 than for younger women.

Table 14. Selected Factors Related to Infant Mortality, 1994

Risk	Percent of Births:		County Rank:		
	County	State	Low	Average	High
Low Birthweight	4.5	6.4	x		
Mother Age Less than 20	4.8	10.3	x		
Prenatal Care:					
Third Trimester or None	1.1	3.5	x		
Fewer than 5 Prenatal Visits	0.9	4.1	x		
5-9 Prenatal Visits	8.1	18.5	x		

Source: Birth certificates, Wisconsin Center for Health Statistics.

Note: The percent distribution of a given risk characteristic by county determines the county rank. A county is “low” if it is in the lowest quartile (# 4.6 for low birthweight; # 7.5 for mother under age 20; # 2.1 for third trimester or no prenatal care; # 2.2 for fewer than 5 prenatal care visits; # 15.1 for 5 to 9 prenatal care visits), or “high” if it is in the highest quartile (\$ 6.1 for low birthweight; \$ 11.5 for mother under age 20; \$ 4.3 for third trimester or no prenatal care; \$ 5.6 for fewer than 5 prenatal care visits; \$ 28.6 for 5 to 9 prenatal care visits).

In Wisconsin, 81.4 percent of births were to mothers with 10 or more prenatal care visits.

INFANT MORTALITY

Table 15. Number of Infant Deaths, 1990-1994

Year	Neonatal Deaths	Postneonatal Deaths	Total Infant Deaths
1990	16	5	21
1991	16	10	26
1992	15	5	20
1993	16	3	19
1994	15	8	23

Source: Death certificates, Wisconsin Center for Health Statistics.

Note: Neonatal deaths are those that occurred at less than four weeks (28 days) of age. Postneonatal deaths are those that occurred between four weeks and one year of age.

There were 541 infant deaths in Wisconsin in 1994, representing a statewide infant mortality rate of 7.9 deaths per 1,000 births. Most (60 percent) infant deaths occurred within the first 4 weeks of life, the neonatal period.

Table 16. Five-Year Average Infant Mortality, 1990-1994

	Average Annual Number of Deaths	Infant Mortality Rate: County	Infant Mortality Rate: State	County Rank:		
				Low	Average	High
Total Infant	21.8	5.4	8.0	x		
Neonatal	15.6	3.9	4.8	x		
Postneonatal	6.2	1.5	3.2	x		

Source: Death certificates, Wisconsin Center for Health Statistics.

Note: Rates are per 1,000 births and are not calculated when the number of deaths during the five-year period is fewer than 20. The distribution of a given rate by county determines the county rank. The number of counties ranked was 31 for total infant deaths, 20 for neonatal deaths, and 10 for postneonatal deaths. A county is "low" if it is in the lowest quartile (# 6.3 for total infant deaths; # 3.9 for neonatal deaths; # 2.6 for postneonatal deaths), or "high" if it is in the highest quartile (\$ 9.0 for total infant deaths; \$ 5.1 for neonatal deaths; \$ 4.4 for postneonatal deaths).

Thirty-one counties had at least 20 infant deaths during the five-year period 1990-1994. Of these, eight counties had an infant mortality rate of 9 per 1,000 births or higher.

HEALTH SERVICES

Table 17. Newborn Hospital Stays by Birthweight and Expected Source of Payment, 1993

	Source of Payment		
	Medical Assistance	Other Pay Sources	All Sources
<u>Average Length of Stay (days)</u>			
Low Birthweight	28	10	15
All Other	2	2	2
<u>Average Charge</u>			
Low Birthweight	\$36,258	\$9,461	\$17,226
All Other	\$1,285	\$1,147	\$1,163

Source: Linked file of birth certificates, hospital discharges and Medical Assistance eligibility data, Wisconsin Center for Health Statistics.

Note: Hospitalizations that occurred out-of-state are not included. Average charge excludes physician charge.

Table 18. Number of Infant Hospitalizations by Selected Diagnoses and Expected Source of Payment, 1994

Diagnosis at Discharge (ICD-9-CM Codes)	Source of Payment		
	Medical Assistance	Other Pay Source	All Sources
Neonatal Disorders (760-779)	15	76	91
Acute Respiratory Infection (460-466)	12	50	62
Viral or Other Infection (010-089, 100-139)	5	23	28
Pneumonia (480-486)	4	14	18
Congenital Anomalies (740-759)	12	47	59
Injuries (800-999)	3	15	18
All Other	37	167	204
Total	88	392	480

Source: Infant hospitalization file, data extracted from the Office of Health Care Information hospital inpatient database, Wisconsin Center for Health Statistics.

Note: Includes all hospitalizations of infants less than one year of age, excluding

Statewide, 1994 newborn hospital stays averaged 13 days for low birthweight infants, compared with 2 days for other infants. Average hospital costs for a newborn were more than \$15,300 for a low birthweight infant versus about \$1,200 for other infants.

Neonatal disorders (a wide variety of conditions originating in the perinatal period) and acute respiratory infections together accounted for about one-third of all 1994 infant hospitalizations in Wisconsin.

newborns; counts are based on first-listed diagnosis. Hospitalizations that occurred out-of-state are not included.

Table 19. Number of Preventable Infant Hospitalizations by Selected Diagnoses and Expected Source of Payment, 1994

Diagnosis at Discharge (ICD-9-CM Codes)	Source of Payment		
	Medical Assistance	Other Pay Source	All Sources
Bacterial Pneumonia (481 ,482.2, 482.3, 482.9, 483, 485, 486)*	4	10	14
Severe Ear, Nose, Throat Infection (382, 462, 463, 465, 472.1)*	3	15	18
Asthma (493)	1	3	4
Gastroenteritis (558.9)	1	3	4
Dehydration (276.5)	7	29	36
All Other Preventable	2	31	33
Total Preventable	18	91	109

During 1994, there were 9,797 hospitalizations of infants (excluding deliveries) in Wisconsin. Of these, 27 percent (2,681) were for conditions in which a hospital stay is potentially preventable, representing a rate of 39.3 such hospitalizations per 1,000 infants.

Source: Preventable hospitalization file, data extracted from the Office of Health Care Information hospital inpatient database, Wisconsin Center for Health Statistics.

Note: "Preventable hospitalizations" include all hospitalizations for 28 conditions that have been defined as ambulatory-care-sensitive. Hospitalizations for these conditions are potentially preventable, in that timely and appropriate preventive and primary care can decrease hospitalizations by: (1) preventing the onset of an illness or condition, (2) controlling an acute episodic illness or condition, or (3) managing a chronic disease or condition. Accordingly, the number of preventable hospitalizations can be used to indicate problems with access, availability and adequacy of preventive and primary care. This table includes all hospitalizations for the defined conditions among infants under one year of age. Hospitalizations that occurred out-of-state are not included.

*Bacterial pneumonia excludes cases with secondary diagnosis of sickle cell anemia and patients less than 2 months old. Severe ear, nose and throat infections exclude cases with insertion of myringotomy tubes.

Table 20. Participation in Special Health Programs, 1994

Population	Prenatal Care Coordination	WIC
Infants (less than 1 year)	---	589
Pregnant Women	91	181
Postpartum Women	---	278

Sources: Bureau of Health Care Financing (Prenatal Care Coordination); Wisconsin WIC Program.

Note: The Supplemental Food Program for Women, Infants, and Children (WIC) provides nutritional counseling and supplementary food for pregnant women, infants and young children at risk for poor health outcomes related to nutritional deficiencies. Prenatal Care Coordination (a Medical Assistance program administered by the DHSS Division of Health, Bureau of Health Care Financing) is the coordinated delivery of nonmedical (psychosocial, educational, and other) services to pregnant women. The program attempts to identify each woman's reproductive health needs and focuses on the prevention of poor birth outcomes. High-risk MA recipients are selected for this benefit, based on established criteria to determine high risk.

In December of 1994, 28,704 Wisconsin infants were receiving services from WIC. The number of women participating in WIC included 9,644 pregnant women and 12,830 receiving services during the year after giving birth.